



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1001; Directorate Identifier 2012-NM-020-AD]

RIN 2120-AA64

Airworthiness Directives; Cessna Aircraft Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Cessna Aircraft Company Model 500, 501, 550, 551, S550, 560, 560XL, and 650 airplanes. This proposed AD was prompted by multiple reports of smoke and/or fire in the tailcone caused by sparking due to excessive wear of the brushes in the air conditioning (A/C) motor. This proposed AD would require an inspection to determine the accumulated hours on certain A/C drive motor assemblies; repetitive replacement of the brushes in the drive motor assembly, or as an option to the brush replacement, deactivation of the air conditioner; and return of replaced brushes to Cessna. We are proposing this AD to prevent the brushes in the A/C motor from wearing down beyond their limits, which could result in the rivet in the brush contacting the commutator causing sparks and consequent fire and/or smoke in the tailcone with no means to detect or extinguish the fire and/or smoke.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Cessna Aircraft Co., P.O. Box 7706, Wichita, KS 67277; telephone 316-517-6215; fax 316-517-5802; email citationpubs@cessna.textron.com; Internet <https://www.cessnasupport.com/newlogin.html>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Christine Abraham, Aerospace Engineer, Electrical Systems and Avionics, ACE-119W, FAA, Wichita Aircraft Certification Office (ACO), 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209; phone: 316-946-4165; fax: 316-946-4107; email: wichita-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-1001; Directorate Identifier 2012-NM-020-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received more than 10 reports of smoke/fire (three reports of fire) in the tailcone of Cessna Aircraft Company Model 525, 550, and 560 airplanes, where investigation revealed brushes had worn beyond their limits on the part number (P/N) 1134104-1 A/C compressor motors. The motor assembly is located in the airplane tailcone where flammable fluids in the form of fuel lines and hydraulics are present. There is no fire detection or extinguishing system in the tailcone. We are proposing this AD to prevent the brushes in the air conditioning motor from wearing down beyond their limits, which could result in the rivet in the brush contacting the commutator causing sparks and consequent fire and/or smoke in the tailcone with no means to detect or extinguish the fire and/or smoke.

The subject part, P/N 1134104-1 A/C compressor motors, might also be installed on Model 500, 501, 551, S550, 560XL, and 650 airplanes. Therefore, those Model 500,

501, 551, S550, 560XL, and 650 airplanes might be subject to the unsafe condition revealed on Model 525, 550, and 560 airplanes.

Relevant Service Information

We have reviewed the following service information:

- Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 10, dated April 23, 2012, of the Cessna Model 550, -0801 and On Maintenance Manual.
- Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 8, dated April 23, 2012, of the Cessna Model 550/551 Maintenance Manual.
- Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 20, dated April 23, 2012, of the Cessna Model 560, -0001 and On Maintenance Manual.
- Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 13, dated April 23, 2012, of the Cessna Model 560XL, (560XL -5001 thru -5500), (560XL -5501 thru -6000), (560XL -6001 and On) Maintenance Manual.
- Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 30, dated April 23, 2012, of the Cessna Model 650 Maintenance Manual.
- Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 4, dated April 23, 2012, of the Cessna Model 500/501, (-0001 thru -0349), (-0350 thru -0689) Maintenance Manual.
- Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 7, dated April 23, 2012, of the Cessna Model S550 Maintenance Manual.

The service information describes procedures for replacement of life-limited components including P/N 1134104-1 A/C compressor motor brushes.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require an inspection to determine if certain A/C compressor motors are installed, an inspection of the A/C compressor hour meter that has P/N 1134104-1 or 1134104-5 A/C compressor motors installed, repetitive replacement of the brushes, or deactivation of the A/C system with installation of a placard prohibiting use of the A/C system until replacement of the brushes as an option to the brush replacement. This proposed AD would also require, when the brushes are replaced, reporting of aircraft information related to the replacement of the brushes and sending the replaced motor brushes to Cessna Aircraft Company for two replacement cycles.

Interim Action

We consider this proposed AD interim action. The reporting data required by this proposed AD will enable us to obtain better insight into brush wear. The reporting data will also indicate if the replacement intervals we established are adequate. After we analyze the reporting data received, we might consider further rulemaking.

Model 525 airplanes are not subject to this proposed AD. We are currently considering requiring similar actions for these airplanes.

Costs of Compliance

We estimate that this proposed AD will affect 1,987 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection, drive motor assembly brush replacement; and parts return and reporting	11 work-hours X \$85 per hour = \$935 per replacement cycle	\$252 per replacement cycle	\$1,187 per replacement cycle	\$2,358,569 per replacement cycle

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Cessna Aircraft Company: Docket No. FAA-2012-1001; Directorate Identifier 2012-NM-020-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the following Cessna Aircraft Company airplanes, certificated in any category.

(1) Model 500 and 501 airplanes, serial number (S/N) 0001 through 0689 inclusive.

(2) Model 550 and 551 airplanes, S/N 0002 through 0733 inclusive, and 0801 through 1136 inclusive.

(3) Model S550 airplanes, S/N 0001 through 0160 inclusive.

(4) Model 560 airplanes, S/N 0001 through 0707 inclusive, and 0751 through 0815 inclusive.

(5) Model 560XL airplanes, S/N 5001 through 5300 inclusive.

(6) Model 650 airplanes, S/N 0200 through 0241 inclusive, and 7001 through 7119 inclusive.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 21, Air Conditioning.

(e) Unsafe Condition

This AD was prompted by multiple reports of smoke and/or fire in the tailcone caused by sparking due to excessive wear of the brushes in the air conditioning (A/C) motor. We are issuing this AD to prevent the brushes in the A/C motor from wearing down, which could result in the rivet in the brush contacting the commutator causing sparks and consequent fire and/or smoke in the tailcone with no means to detect or extinguish the fire and/or smoke.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Part Number (P/N) Inspection

Within 30 days or 10 flight hours after the effective date of this AD, whichever comes first: Inspect the A/C compressor motor to determine whether P/N 1134104-1 or P/N 1134104-5 is installed. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the A/C compressor motor can be conclusively determined from that review.

(h) Inspection of Compressor Hour Meter and Maintenance Records

If during the inspection required by paragraph (g) of this AD, any A/C compressor motor is found having P/N 1134104-1 or P/N 1134104-5: Within 30 days or 10 flight hours after the effective date of this AD, whichever occurs first, determine the hour reading on the A/C compressor hour meter as specified in paragraphs (h)(1) and (h)(2) of this AD:

(1) Inspect the number of hours on the A/C compressor hour meter; and

(2) Check the airplane logbook for any entry for replacing the A/C compressor motor brushes with new brushes, or for replacing the compressor motor or compressor condenser module assembly (pallet) with a motor or assembly that has new brushes;

(i) If the logbook contains an entry for replacement of parts as specified in paragraph (h)(2) of this AD, determine the number of hours on the A/C compressor motor brushes by comparing the number of hours on the compressor motor since replacement and use this number in lieu of the number determined in paragraph (h)(1) of this AD; or

(ii) If through the logbook check you cannot positively determine the number of hours on the A/C compressor motor brushes as specified in paragraph (h)(2) of this AD, use the number of hours on the A/C compressor hour meter determined in paragraph (h)(1) of this AD or presume the brushes have over 500 hours time-in-service.

(i) Replacement

Using the hour reading on the A/C compressor hour meter determined in paragraph (h) of this AD, replace the A/C compressor motor brushes with new brushes at the later of the times specified in paragraphs (i)(1) and (i)(2) of this AD. Thereafter, repeat the replacement of the A/C compressor motor brushes at intervals not to exceed every 500 hours time-in-service on the A/C compressor motor. Do the replacement in accordance with the applicable Cessna maintenance manual listed in paragraphs (i)(3)(i) through (i)(3)(vii) of this AD.

(1) Before or when the A/C compressor motor reaches a total of 500 hours time-in-service; or

(2) Before further flight after the inspection required in paragraph (h) of this AD.

(3) Replace the A/C compressor motor brushes in accordance with the instructions in the applicable Cessna maintenance manual specified in paragraphs (i)(3)(i) through (i)(3)(vii) of this AD.

(i) Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 10, dated April 23, 2012, of the Cessna Model 550, -0801 and On Maintenance Manual.

(ii) Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 8, dated April 23, 2012, of the Cessna Model 550/551 Maintenance Manual.

(iii) Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 20, dated April 23, 2012, of the Cessna Model 560, -0001 and On Maintenance Manual.

(iv) Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 13, dated April 23, 2012, of the Cessna Model 560XL,

(560XL -5001 thru -5500), (560XL -5501 thru -6000), (560XL -6001 and On) Maintenance Manual.

(v) Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 30, dated April 23, 2012, of the Cessna Model 650 Maintenance Manual.

(vi) Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 4, dated April 23, 2012, of the Cessna Model 500/501, (-0001 thru -0349), (-0350 thru -0689) Maintenance Manual.

(vii) Subject 4-11-00, Replacement Time Limits, of Chapter 4, Airworthiness Limitations, Revision 7, dated April 23, 2012, of the Cessna Model S550 Maintenance Manual.

(j) Deactivation/Reactivation

(1) In lieu of replacing the A/C compressor motor brushes as required by this AD, deactivate the A/C as follows: Pull the vapor cycle A/C circuit breaker, install a placard by the A/C selection switch prohibiting use of the vapor cycle air conditioner, and document deactivation of the system in the airplane logbook referring to this AD as the reason for deactivation. While the system is deactivated, airplane operators must remain aware of operating temperature limitations as detailed in the specific airplane flight manual.

(2) If an operator chooses to deactivate the system and then later chooses to return the A/C to service: Before returning the A/C system to service and removing the placard, perform the inspection specified in paragraph (h) of this AD, and do the replacements specified in paragraph (i) of this AD at the times specified in paragraph (i) of this AD.

(k) Parts Return and Reporting Requirement

For the first two A/C compressor motor brush replacement cycles on each airplane, send the brushes that were removed to Cessna Aircraft Company, Cessna

Service Parts and Programs, 7121 Southwest Boulevard, Wichita, KS 67215. Provide the information specified in paragraphs (k)(1) through (k)(6) of this AD, at the applicable time specified in paragraph (k)(7) or (k)(8) of this AD, along with the brushes.

- (1) The model and serial number of the airplane.
- (2) The part number of the motor.
- (3) The part number of the brushes, if known.
- (4) The elapsed amount of motor hours since the last brush/motor replacement, if known.
- (5) If motor hours are unknown, report the elapsed airplane flight hours since the last brush/motor replacement and indicate that motor hours are unknown; and
- (6) The number of motor hours currently displayed on the pallet hour meter.
- (7) If the replacement was done on or after the effective date of this AD: Within 30 days after the replacement.
- (8) If the replacement was done before the effective date of this AD: Within 30 days after the effective date of this AD.

(l) Parts Installation Prohibition

As of the effective date of this AD, no person may install an A/C compressor motor having P/N 1134104-1 or P/N 1134104-5, unless the inspection specified in paragraph (h) of this AD is done before further flight, and the replacements specified in paragraph (i) of this AD are done at the times specified in paragraph (i) of this AD.

(m) Special Flight Permit

Operation of the A/C system is prohibited while flying with a special flight permit issued for this AD.

(n) Paperwork Reduction Act Burden Statement

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a

collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

(o) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Wichita Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(p) Related Information

(1) For more information about this AD, contact Christine Abraham, Aerospace Engineer, Electrical Systems and Avionics, ACE-119W, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Wichita, Kansas 67209; phone: 316-946-4165; fax: 316-946-4107; email: wichita-cos@faa.gov.

(2) For service information identified in this AD, contact Cessna Aircraft Co., P.O. Box 7706, Wichita, KS 67277; telephone 316-517-6215; fax 316-517-5802;

email citationpubs@cessna.textron.com;

Internet <https://www.cessnasupport.com/newlogin.html>. You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on September 19, 2012.

Ali Bahrami,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

[FR Doc. 2012-23639 Filed 09/25/2012 at 8:45 am; Publication Date: 09/26/2012]